

16. (previously amended) A composite membrane as in Claim 15 wherein said crosslinked polyamide comprises the reaction product of an aromatic diamine or triamine and an aromatic triacyl halide.
17. (previously amended) A composite membrane as in Claim 16 wherein said crosslinked polyamide comprises the reaction product of an aromatic diamine or triamine, an aromatic triacyl halide and an aromatic diacyl halide.
18. (previously amended) A composite membrane as in Claim 15 wherein the porous support is a polyarylethersulfone.
19. (previously amended) A composite membrane as in Claim 15 wherein said first membrane comprises a thin film, flat sheet, hollow fiber or tubular membrane.
20. (previously amended) A composite membrane as in Claim 15 wherein the membrane is a component of a spiral-wound membrane filter or a plate and frame filter.
- 21-22. (cancelled)
23. (currently amended) A composite membrane as in Claim 15 wherein said organic sulfonic acid compound comprises methanesulfonic acid, trifluoromethanesulfonic acid or a mixture thereof.
24. (cancelled)
25. (previously amended) A composite membrane as in Claim 15 wherein said solution of an organic sulfonic acid compound comprises said organic sulfonic acid compound dispersed or dissolved in water, alcohol, glycol, alkoxy alcohol or a carboxylic acid or a mixture thereof.
26. (cancelled)
27. (previously added) A composite membrane as in Claim 15 wherein said organic sulfonic acid compound comprises ethanesulfonic acid.
28. (previously added) A composite membrane as in Claim 15 wherein said organic sulfonic acid compound comprises trifluoromethanesulfonic acid.
29. (currently amended) A composite membrane useful for reverse osmosis or nanofiltration comprising:
a supportive porous under-structure; and
a top layer consisting of a crosslinked polyamide thin film which is adhered to the upper surface of the porous support structure, said top layer having been contacted with a solution of a C₄-C₆ alkyl, alkenyl, haloalkyl, haloalkenyl, or hydroxy at least one sulfonic or disulfonic acid compound selected from the group consisting of

methanesulfonic acid, ethanesulfonic acid and trifluoromethanesulfonic acid:

whereby said membrane has a water flux of at least 15 gfd and a rejection of at least 20 percent when tested ~~an~~ with a 0.05 percent aqueous sodium chloride solution at 75 psi and 25°C.

30. (previously added) A composite membrane as in Claim 29 wherein said crosslinked polyamide comprises the reaction product of an aromatic diamine or triamine and an aromatic triacyl halide.

31. (previously added) A composite membrane as in Claim 30 wherein said crosslinked polyamide comprises the reaction product of an aromatic diamine or triamine, an aromatic triacyl halide and an aromatic diacyl halide.

32. (previously added) A composite membrane as in Claim 29 wherein the porous support is a polyarylethersulfone.

33. (previously added) A composite membrane as in Claim 29 wherein said first membrane comprises a thin film, flat sheet, hollow fiber or tubular membrane.

34. (previously added) A composite membrane as in Claim 29 wherein the membrane is a component of a spiral-wound membrane filter or a plate and frame filter.

35. (cancelled)

36. (currently amended) A composite membrane as in Claim 29 wherein said organic sulfonic acid compound comprises ~~methanesulfonic acid, trifluoromethanesulfonic acid or a mixture thereof.~~

37. (previously added) A composite membrane as in Claim 29 wherein said solution of an organic sulfonic acid compound comprises said organic sulfonic acid compound dispersed or dissolved in water, alcohol, glycol, alkoxy alcohol or a carboxylic acid or a mixture thereof.

38. (previously added) A composite membrane as in Claim 29 wherein said organic sulfonic acid compound comprises ethanesulfonic acid.

39. (previously added) A composite membrane as in Claim 29 wherein said organic sulfonic acid compound comprises trifluoromethanesulfonic acid.

Claims specific to trifluoromethanesulfonic acid have already been indicated as allowable. The proposed amendments restrict the scope of the claims to that compound and two closely related other sulfonic acids, methanesulfonic acid and ethanesulfonic acid. The latter two are mentioned in some of the cited prior art, but as the August 11th Office Action recognizes, not in a context which would make obvious their inclusion in the amended claims.

The two rejections in the present final Office Action are based on 1) Chau et al. in view of "applicant's admission" and Kiefer et al., and 2) Chau et al. in view of "applicant's admission", Kiefer et al. and Koo et al. Applicant submits that these two rejections have fatal flaws.

First, Kiefer et al. is not a valid reference, since it is a paper presented at a conference held in March 2003. Applicant's filing date is November 28, 2000, 2½ years earlier, so the 2003 publication of the Kiefer paper cannot be used under 35 U.S.C. §§ 102 or 103(a). See page 20 of Applicant's May 7, 2004 Amendment. Applicant placed the Kiefer paper on the record not as prior art, but as a recent publication showing an analysis by an independent party of a membrane of Applicant's composition.

Second, the statement that is referred to as an "admission" by Applicant regarding the flux properties of the Chau system (page 3 of the Office Action) is not correctly characterized in the Office Action. As Applicant has acknowledged on page 3 of Appendix B to the May 7th Amendment, Chau does teach several higher flux membranes, but those are ones treated with citric acid, not a sulfonic acid. Consequently Applicant's acknowledge of that disclosure cannot be an "admission" related to amended claims, since that disclosure of Chau is not relevant to the proposed amended claims.

Chau and Koo have been discussed and distinguished earlier in the prosecution of this case. As the Examiner recognizes in the final rejection, neither alone is sufficient basis for a rejection.

Applicant therefore respectfully submits that the proposed amendments to the claims place the claims in condition to avoid and/or traverse the cited rejections, especially in view of the deficiencies of two of the three references in the first rejection and of two of the four references in the second rejection.

Applicant requests your reconsideration of the final rejections and acceptance of the proposed claims. If you concur, Applicant will file a formal amendment to that effect to place the case in condition for allowance.

I will call you when I return to my office on Monday, November 8, to discuss this proposal.

Best Regards,
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